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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,341	01/18/2002	Philippe Dupuy	217694US2PCT	6469
22850	7590	11/17/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			VY, HUNG T	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	
			2821	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/031,341

**Applicant(s)**

DUPUY, PHILIPPE

**Examiner**

Hung T Vy

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 13-32 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: 9/8/2004.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. In response to amendment filed on 9/23/2004, claims 13-32 are pending in this application.

**Claim Rejections - 35 U.S.C. § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

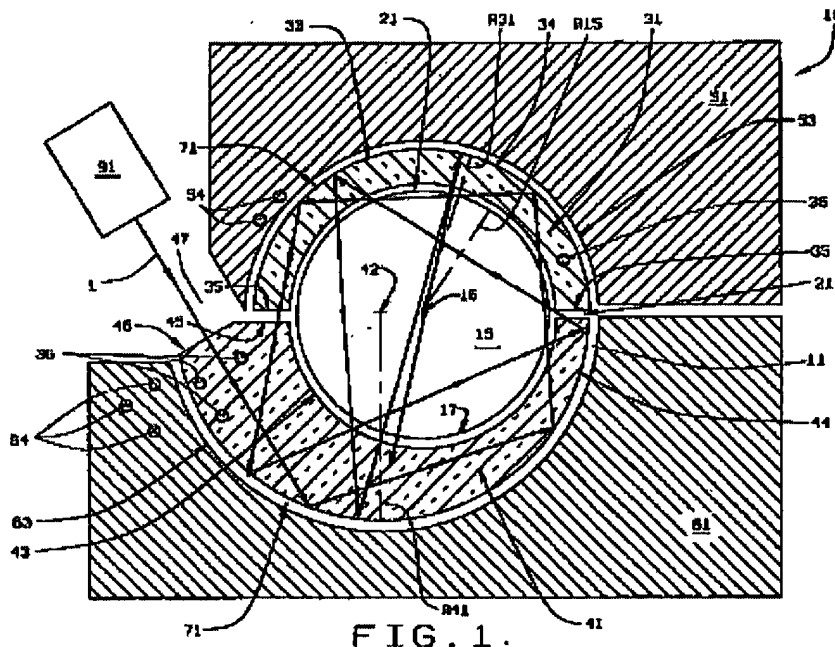
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-32 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Dube, U.S. patent No. 5,619,522 in view of Chang et al., U.S. Patent No. 5,978,407.

Regarding claims 13-14, Dube discloses an optical pumping module and a method for optical pumping a light amplifying medium, comprising a light amplifying medium (15), at least one light source (91) for optically pumping the amplifying medium (15) and a reflector which encircles the amplifying medium (15) and the wall of the reflector (44 and 34) is configured to reflect light from the source, wherein the reflector is partly or totally (see column 8, line 29-31) and the source (91) is orientated so as to send a beam directly stemming from this source towards the wall of the reflector so that this beam undergoes successive partly or totally reflections thereon and the amplifying medium (15) is optically pumped by the sole light reflected by the wall of the partly or totally reflector (See fig. 1 below), but Dube does not disclose the diffusive reflector.

However, Change et al. discloses the wall of a diffusive reflector (See fig. 5B). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Dube to have diffusive reflector as taught by Chang et al. The motivation for doing so would have been to provide the a diffusive reflector in order to recycle of unused pump radiation that leads to an improved laser efficiency (See column 2, line 44-49) and to avoid the problem of forming hot pumping spots in the laser rod, resulting in a more uniformed laser pumping and higher laser efficiency (See column 5, line 18-21 or see column 2, line 4-6).

Regarding claims 15-18, and 22-24, Dube discloses the module, wherein the amplifying medium (15) forms a cylindrical rod (See column 5, line 2-3) with a substantially circular base, the light source (91) is for transverse optical pumping of this medium (15), and the wall of the reflector forms a cylinder with generatrices parallel to an axis of the amplifying medium (See fig 1 below), the base of the cylinder formed by the wall of the reflector is selected from substantially regular polygons, ellipses (See fig 1 and fig. 6), the light source (91) is a light emitter and this light emitter is selected from a laser diode, a laser diode array, a row of laser diode arrays, a stack of laser diode arrays, and a combination of the row and the stack, the arrays being parallel to generatrices of the cylinder formed by the wall of the reflector (See column 1, line 43-55), the module comprising several blocks (see fig 1), the light source (91) is placed in a gap formed



between two adjacent blocks (See fig 1), each block comprising a planar face (see column 4, line 18-21), the light source is a light emitter (See column 1, line 49).

Claim 19, Dube discloses the module, further comprising plural blocks (See fig. 6), each block comprising a planar face (see column 4, line 18-21) and Chang et al. disclose a base of the cylinder formed by the wall of the diffusive reflector is a substantially regular polygon, the wall comprising plural sides (See fig. 6-7).

Claim 20, Due discloses the module, wherein the light source (91) is placed in a gap formed between two adjacent blocks (251 and 261) of the plural blocks.

Claim 21, See the rejection of claims 15-20 above.

Regarding claim 25-32, Chang et al. disclose all limitations of invention as diffusive reflector except for different kind of diffusive and it would have been obvious to one having ordinary skill in the art at the time the invention was made to have different material for diffusive reflector, since it has been held to be within the general skill of a

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worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

### **Response to Arguments**

3. Applicant's arguments with respect to claims 1-32 have been fully considered and are persuasive. Therefore, the office action mailed on 3/26/2004 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dube and Chang.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (571) 272-1954. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-7722 for After Final communications.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either private Pair or Public Pair. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on

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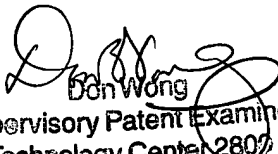
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access to the Private PAIR system, contact the Electronic Business Center (EBC) at  
866-217-9197 (toll-free).

Hung T. Vy  
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November 12, 2004

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2802